



Montana Department of
ENVIRONMENTAL QUALITY

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Judy H. Martz, Governor

08/09/2001

Facility File: Asarco #14

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MAR 13 2007

Office of Enforcement
Compliance & Environmental
Justice

August 9, 2001

Jon Nickel
ASARCO Inc., East Helena
P.O. Box 1230
East Helena, MT 59635

RE: Corrective Action Management Unit (CAMU) Construction Inspection on July 26, 2001.

Dear Mr. Nickel:

Enclosed is a copy of the inspection report from my observations during CAMU construction. The purpose of the inspections was to:

- Determine compliance with hazardous waste generator requirements;
- Look for compliance with other State environmental requirements (e.g. air, stormwater, asbestos); and
- Observe and document the CAMU's construction.

At the time of the inspections, Asarco Inc. (Asarco) was in substantial compliance with hazardous waste generator requirements. If there are any questions or concerns, please feel free to contact me at (406) 444-1424.

Sincerely,

Adel Johnson
Solid and Hazardous Waste Specialist

Enclosure

cc: Susan Zazzali, EPA -- Montana Office
HW Facility File: Asarco Facility File #13

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting & Compliance Division
Air & Waste Management Bureau

FIELD INVESTIGATION REPORT

SITE: ASARCO East Helena

EPA ID#: MTD006230346

LOCATION: East Helena, MT

DATE & TIME: July 25, 2001 9:35 AM
July 26, 2001 10:20 AM

LENGTH OF INSPECTIONS: Approximately 1 hour and 1 ½ hours

CONTACTS: Darrel Shew-ASARCO Inc.
Rod Kirschman-ASARCO Inc.

INSPECTION TEAM: Adel Johnson-Air and Waste Management Bureau, DEQ
Susan Zazzali-Montana Environmental Protection Agency

PURPOSE: Corrective Action Inspection (CAO). The purpose of the CAO was to observe the construction of a Corrective Action Management Unit (CAMU).

REPORT PREPARED BY: Adel Johnson-Air and Waste Management Bureau, DEQ

BACKGROUND: ASARCO Incorporated, East Helena Plant, (ASARCO) is a primary lead smelter that also functions as a custom smelter for a variety of on- and off-site generated materials. The plant occupies approximately 142 acres and is bound to the south by Upper and Lower Lake, to the east and northeast by Prickly Pear Creek, and to the north by East Helena and American Chemet. The smelter has been temporarily closed since April 2001.

In July 2000, Asarco submitted the "Final Design Analysis Report, Corrective Action Management Unit (CAMU)," which EPA subsequently approved. The CAMU will be a permanent disposal cell for soils, sediments, and demolition debris stockpiles contaminated with arsenic, cadmium, lead and other heavy metals. The waste material will come from four Lower Ore Storage piles, Shew Ridge, Lower Lake sediment, and the soil stockpile area between Upper and Lower Lake. Envirocon was retained by Asarco to build the CAMU during the 2001 construction season.

The purpose of the inspection on July 25 was to document construction of the HDPE liner. The inspection on July 26 supported the previous day's inspection with photos.

RESULTS OF INSPECTIONS: On July 25, the inspection team parked southwest of the county road at the CAMU's construction site entrance. Rod Kirschman from ASARCO and Kurt Wieringa, Envirocon's construction supervisor, met us at the site. Approximately one half (southeastern half) of the CAMU's compacted clay liner was complete. Clay liner construction was continuing on the northwestern half, with lifts being laid from the southwest edge to the northeast edge. Photo 1 shows the roller compactor finishing a final clay lift. A water truck and a farm implement disking the clay

material are shown in Photo 2.

The liner contractor, Northwest Linings and Geotextile Products, had started the HDPE liner construction. See Photos 3, 4 and 5 for an overview of the site. Mr. Wieringa explained how the 60-mil liner is pieced together. The first step of the liner installation process is placing a long HDPE strip in the bottom of the CAMU, parallel to the side slope. This strip was in place during the inspection and stretched from the southern corner toward the northeast. Starting at the CAMU's southern corner, shorter HDPE strips are then overlapped and placed perpendicular to the long strip.

The inspection team observed the tensiometer testing of a coupon cut from a test seam. The seam consists of two 1-inch strips of welded material with a small air-filled conduit between the two strips. Photo 6 shows a worker who has just cut several coupons from a seam. The tensiometer measures the shear and peel strength of the seam. The arrows in Figure 1 below show the direction the coupons are pulled to measure shear strength and peel strength.

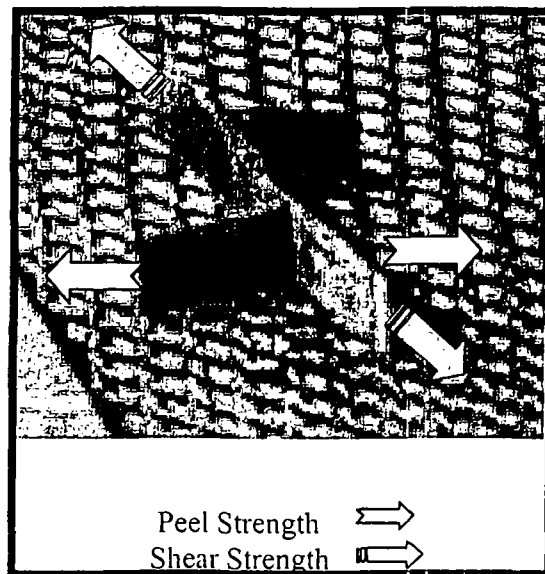


Figure 1: Coupon Tensiometer Pull Directions.

Photos 7 and 8 show the worker testing the coupons in a Columbine International LTD Accuralite tensiometer (SN NAL-3096). The sticker above the tensiometer's digital readout shows the machine was serviced and calibrated on 01/06/01.

We observed the placement and sealing of the liner material. First, a roll of liner material is attached to a forklift. The end of the liner material is held in place by the workers as the forklift moves backward, unrolling the HDPE liner onto the clay liner. See Photos 9 and 10. The workers feed the overlapped panels into a seam sealer that is powered by a portable generator. As the seam sealer propels itself along the seam, the operator wipes the liner material in front of the machine with a clean cloth. See Photo 11. After each panel is sealed, it is labeled with chalk. See Photo 12. Sandbags are strategically placed on the panels to protect them from the wind as shown in Photo 13. Geonet material is then placed over the liner. No geonet material was in place on July 25. Photos 6, 12, and 13 show the geonet material in place on July 26.

While viewing the sealing for the southern corner, we observed one of the workers checking the seam with his hands to ensure the two sheets of HDPE were welded together. He discovered a couple of

gaps in the seam, circled them with chalk, and left with the sealer. Later in the inspection the sealer was observed being repaired.

The inspection team walked across the CAMU's compacted clay material. Ms. Zazzali noticed the surveying stakes had left holes in the final compacted clay lift. Ms. Zazzali asked Mr. Wieringa to fill the holes to preserve the liner's integrity. Shortly thereafter, a worker was observed filling the holes with clay material.

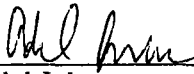
Rolls of new geotextile fabric material were observed on the southeast edge of the CAMU. The material was approximately 1-inch thick and was composed of a plastic, waffle-shaped material sandwiched between two layers of fabric. The geotextile acts as a filter barrier between the waste and a geonet drain layer. Northwest Linings and Geotextile Products, the HDPE liner installation contractor is also the manufacturer of this product.

The inspection team left the facility at approximately 10:40 AM.

On July 26, the inspection team returned to the CAMU construction site to take photos. The inspection team also viewed the Shew Ridge stockpile with Darrel Shew, ASARCO. Photo 14 shows the waste material that was separated from stockpile. The waste material will be sized and/or compacted and placed in the CAMU. Photo 15 shows part of the stockpile.

RECOMMENDATIONS: None

August 7, 2001
Date of Inspection Report



Adel Johnson
Environmental Engineer

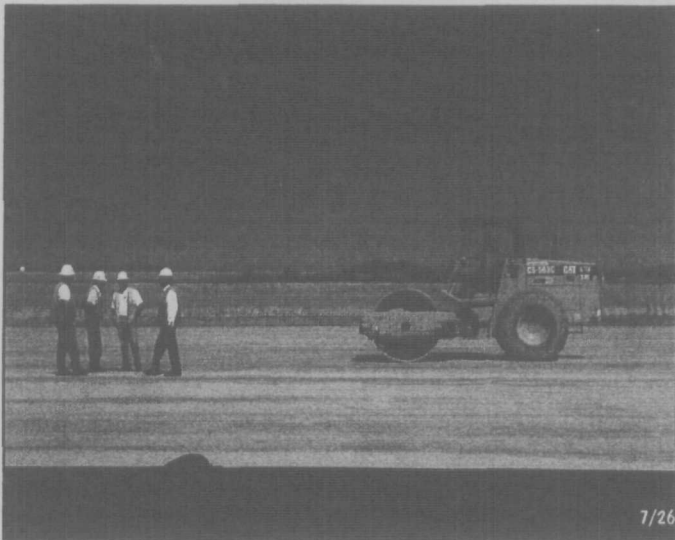
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PHOTOS

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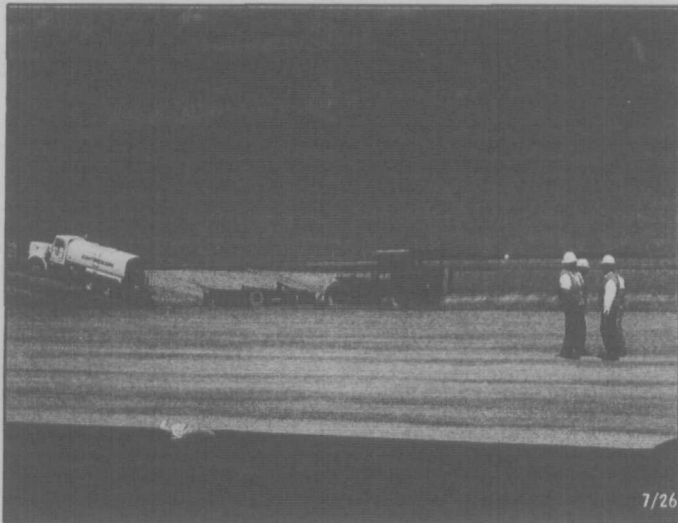
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To view the actual hard copy,
contact the Region VIII Records
Center at (303) 312-6473.



MT DEQ/AWMB

PROJECT/CASE NO: ASARCO E. Helena CAMU
 SUBJECT: Roller compactor
 LOCATION: Bottom of CAMU
 CITY: E. Helena COUNTY: Lewis & Clark
 DATE: 07/26/01 TIME: AM
 WEATHER: (SUN)(HAZE)(CLOUDY)(RAIN)(SNOW)
 PHOTOGRAPHER (initials) Adel Johnson
 WITNESS: Susan Zazzali, EPA
 CAMERA: Kodak DC290 Zoom Digital Camera
 PHOTO FILE LOCATION:
 F:/CB5489/WP/Asarco/CA/pictures/P0000175pg
 PHOTO# 1



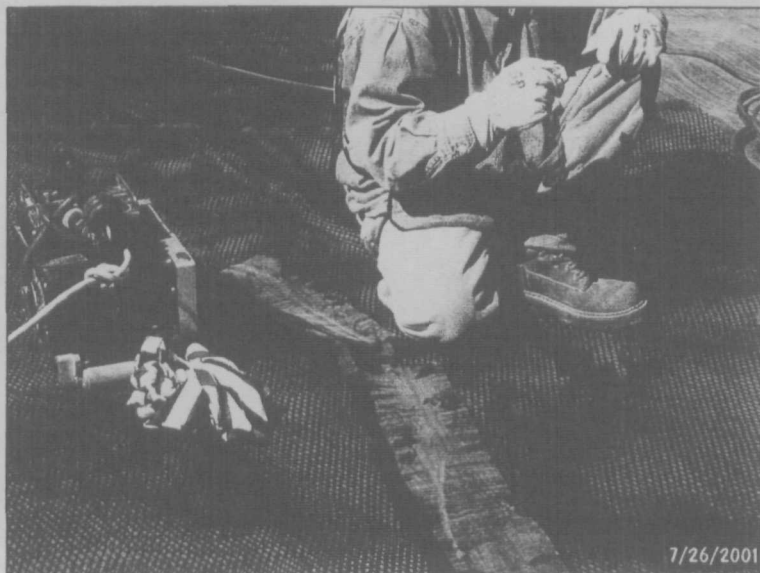
MT DEQ/AWMB

PROJECT/CASE NO: ASARCO E. Helena CAMU
 SUBJECT: Water truck and tractor
 LOCATION: Bottom of the CAMU
 CITY: E. Helena COUNTY: Lewis & Clark
 DATE: 07/26/01 TIME: AM
 WEATHER: (SUN)(HAZE)(CLOUDY)(RAIN)(SNOW)
 PHOTOGRAPHER (initials) Adel Johnson
 WITNESS: Susan Zazzali, EPA
 CAMERA: Kodak DC290 Zoom Digital Camera
 PHOTO FILE LOCATION:
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 PHOTO# 2



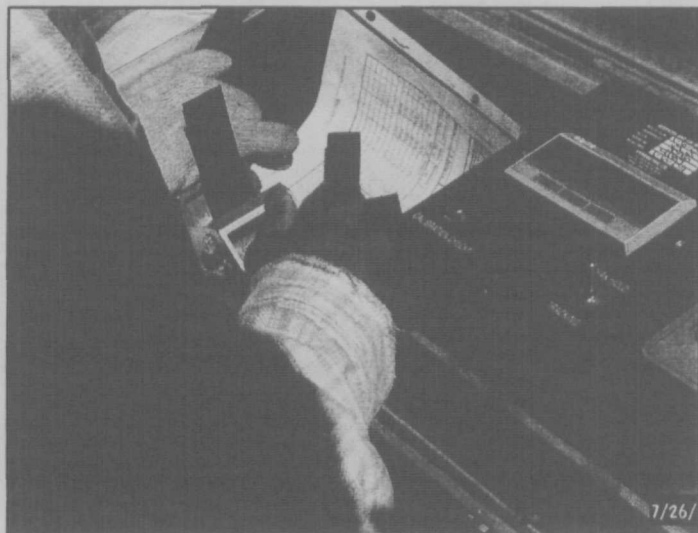
MT DEQ/AWMB

PROJECT/CASE NO: ASARCO E. Helena CAMU
 SUBJECT: Overview of construction site
 LOCATION: View from the southeast edge
 CITY: E. Helena COUNTY: Lewis & Clark
 DATE: 07/26/01 TIME: AM
 WEATHER: (SUN)(HAZE)(CLOUDY)(RAIN)(SNOW)
 PHOTOGRAPHER (initials) Adel Johnson
 WITNESS: Susan Zazzali, EPA
 CAMERA: Kodak DC290 Zoom Digital Camera
 PHOTO FILE LOCATION:
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 F:/CB5489/WP/Asarco/CA/pictures/P0000171.jpg
 F:/CB5489/WP/Asarco/CA/pictures/P0000172.jpg
 PHOTO# 3, 4, and 5



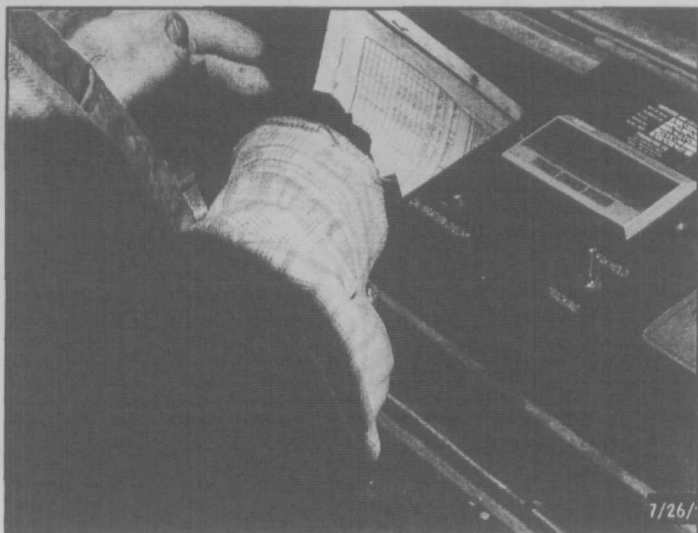
MT DEQ/AWMB

PROJECT/CASE NO: ASARCO E. Helena CAMU
 SUBJECT: Seam sealer, test seam, and coupons
 LOCATION: Bottom of CAMU
 CITY: E. Helena COUNTY: Lewis & Clark
 DATE: 07/26/01 TIME: AM
 WEATHER: (SUN)(HAZE)(CLOUDY)(RAIN)(SNOW)
 PHOTOGRAPHER (initials) Adel Johnson
 WITNESS: Susan Zazzali, EPA
 CAMERA: Kodak DC290 Zoom Digital Camera
 PHOTO FILE LOCATION:
 F:/CB5489/WP/Asarco/CA/pictures/P0000189pg
 PHOTO# 6



MT DEQ/AWMB

PROJECT/CASE NO: ASARCO E. Helena CAMU
 SUBJECT: Tensiometer
 LOCATION: Bottom of the CAMU
 CITY: E. Helena COUNTY: Lewis & Clark
 DATE: 07/26/01 TIME: AM
 WEATHER: (SUN)(HAZE)(CLOUDY)(RAIN)(SNOW)
 PHOTOGRAPHER (initials) Adel Johnson
 WITNESS: Susan Zazzali, EPA
 CAMERA: Kodak DC290 Zoom Digital Camera
 PHOTO FILE LOCATION:
 F:/CB5489/WP/Asarco/CA/pictures/P0000179pg
 PHOTO# 7



MT DEQ/AWMB

PROJECT/CASE NO: ASARCO E. Helena CAMU
 SUBJECT: Tensiometer
 LOCATION: Bottom of the CAMU
 CITY: E. Helena COUNTY: Lewis & Clark
 DATE: 07/26/01 TIME: AM
 WEATHER: (SUN)(HAZE)(CLOUDY)(RAIN)(SNOW)
 PHOTOGRAPHER (initials) Adel Johnson
 WITNESS: Susan Zazzali, EPA
 CAMERA: Kodak DC290 Zoom Digital Camera
 PHOTO FILE LOCATION:
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 PHOTO# 8



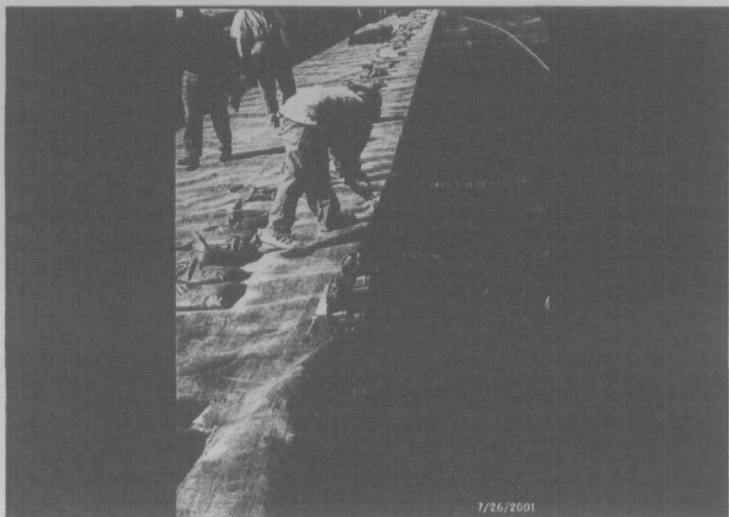
MT DEQ/AWMB

PROJECT/CASE NO: ASARCO E. Helena CAMU
 SUBJECT: Unrolling the liner
 LOCATION: CAMU's southwest edge
 CITY: E. Helena COUNTY: Lewis & Clark
 DATE: 07/26/01 TIME: AM
 WEATHER: (SUN)(HAZE)(CLOUDY)(RAIN)(SNOW)
 PHOTOGRAPHER (initials) Adel Johnson AJ
 WITNESS: Susan Zazzali, EPA
 CAMERA: Kodak DC290 Zoom Digital Camera
 PHOTO FILE LOCATION:
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 PHOTO# 9



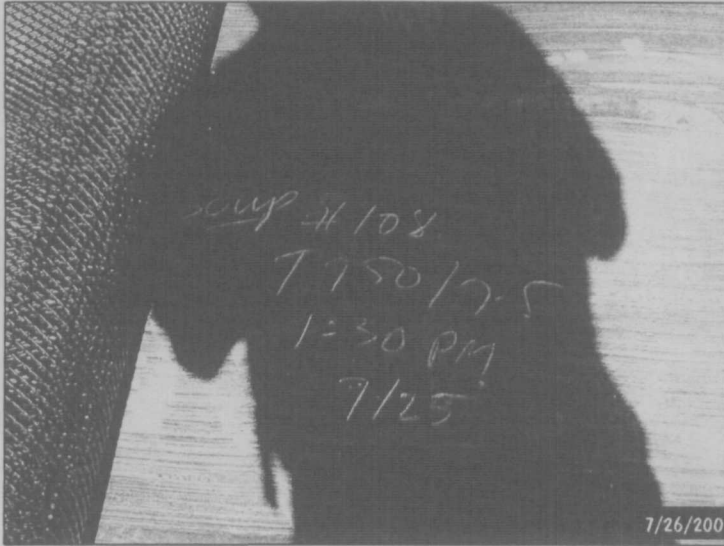
MT DEQ/AWMB

PROJECT/CASE NO: ASARCO E. Helena CAMU
 SUBJECT: Unrolling the liner
 LOCATION: Bottom of the CAMU
 CITY: E. Helena COUNTY: Lewis & Clark
 DATE: 07/26/01 TIME: AM
 WEATHER: (SUN)(HAZE)(CLOUDY)(RAIN)(SNOW)
 PHOTOGRAPHER (initials) Adel Johnson AJ
 WITNESS: Susan Zazzali, EPA
 CAMERA: Kodak DC290 Zoom Digital Camera
 PHOTO FILE LOCATION:
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 PHOTO# 10



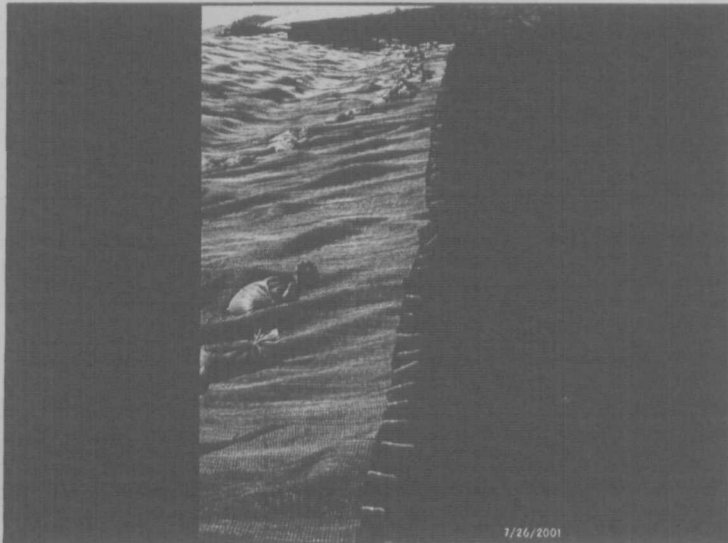
MT DEQ/AWMB

PROJECT/CASE NO: ASARCO E. Helena CAMU
 SUBJECT: Seam sealing the HDPE liner
 LOCATION: Bottom of the CAMU
 CITY: E. Helena COUNTY: Lewis & Clark
 DATE: 07/26/01 TIME: AM
 WEATHER: (SUN)(HAZE)(CLOUDY)(RAIN)(SNOW)
 PHOTOGRAPHER (initials) Adel Johnson AJ
 WITNESS: Susan Zazzali, EPA
 CAMERA: Kodak DC290 Zoom Digital Camera
 PHOTO FILE LOCATION:
 F:/CB5489/WP/Asarco/CA/pictures/P0000181pg
 PHOTO# 11



MT DEQ/AWMB

PROJECT/CASE NO: ASARCO E. Helena CAMU
 SUBJECT: HDPE liner marking
 LOCATION: Bottom of the CAMU
 CITY: E. Helena COUNTY: Lewis & Clark
 DATE: 07/26/01 TIME: AM
 WEATHER: (SUN)(HAZE)(CLOUDY)(RAIN)(SNOW)
 PHOTOGRAPHER (initials) Adel Johnson
 WITNESS: Susan Zazzali, EPA
 CAMERA: Kodak DC290 Zoom Digital Camera
 PHOTO FILE LOCATION:
 F:/CB5489/WP/Asarco/CA/pictures/P0000170.jpg
 PHOTO# 12



MT DEQ/AWMB

PROJECT/CASE NO: ASARCO E. Helena CAMU
 SUBJECT: Geonet
 LOCATION: Bottom of the CAMU
 CITY: E. Helena COUNTY: Lewis & Clark
 DATE: 07/26/01 TIME: AM
 WEATHER: (SUN)(HAZE)(CLOUDY)(RAIN)(SNOW)
 PHOTOGRAPHER (initials) Adel Johnson
 WITNESS: Susan Zazzali, EPA
 CAMERA: Kodak DC290 Zoom Digital Camera
 PHOTO FILE LOCATION:
 F:/CB5489/WP/Asarco/CA/pictures/P0000174.jpg
 PHOTO# 13



MT DEQ/AWMB

PROJECT/CASE NO: ASARCO E. Helena CAMU
 SUBJECT: Sorted debris from Shew Ridge
 LOCATION: Lower Lake sediment pile in background
 CITY: E. Helena COUNTY: Lewis & Clark
 DATE: 07/26/01 TIME: AM
 WEATHER: (SUN)(HAZE)(CLOUDY)(RAIN)(SNOW)
 PHOTOGRAPHER (initials) Adel Johnson
 WITNESS: Susan Zazzali, EPA
 CAMERA: Kodak DC290 Zoom Digital Camera
 PHOTO FILE LOCATION:
 F:/CB5489/WP/Asarco/CA/pictures/P0000183.jpg
 PHOTO# 14



MT DEQ/AWMB

PROJECT/CASE NO: ASARCO E. Helena CAMU

SUBJECT: Shew Ridge

LOCATION: Western edge of the smelter

CITY: E. Helena COUNTY: Lewis & Clark

DATE: 07/26/01 TIME: AM

WEATHER: (SUN)(HAZE)(CLOUDY)(RAIN)(SNOW)

PHOTOGRAPHER (initials) Adel Johnson *AJ*

WITNESS: Susan Zazzali, EPA

CAMERA: Kodak DC290 Zoom Digital Camera

PHOTO FILE LOCATION:

F:/CB5489/WP/Asarco/CA/pictures/P0000184.jpg

PHOTO# 15